REMARKS/ARGUMENTS

Claims 21-30 are pending in the application. Claims 21, 25, 27 and 28 have been amended in order to expedite prosecution of this application. Applicants respectfully request reconsideration of the application in view of the following remarks.

In the Office Action, claims 21-24 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,822,206 (Sebastian et al.) in view of U.S. Patent No. 6,546,419 (Humpleman et al.).[1] Applicants respectfully request reconsideration of this rejection in view of the following.

As recited, for example, in Applicants' claim 21, Applicants' claimed invention is directed to a "A method of configuring a product from a plurality of product components, the method comprising the steps of: representing product component knowledge of a plurality of product components in a hierarchical structure . . . ; outputting a set of product-specific questions related to desired attributes of desired product components; receiving individual answers to respective ones of the set of product-specific questions, including desired attributes of at least one product component; removing at least one product-specific question from the output set of product-specific questions, prior to receiving an answer to the at least one product-specific question . . . ; and configuring a product with features and options based on the desired attributes of the at least one product component and based on inferences made in said performing step." Claim 21 (emphasis added). As an initial distinction over the cited prior art, Applicants note that the claimed method, as recited, for example, in claim 21, is directed to the configuration of a product from input specification of desired attributes of product components to be used in forming the product. Utilizing

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[1] The two references (U.S. Patent Nos. 5,293,479 and 5,546,419) identified in the Office Action (at 2) appear to be in error.

this feature, the claimed invention permits a user to rely completely on the invention to configure the product. No preconceived design or identification of potential product components is necessary to produce a finished product meeting the desired attributes of the user.

In a completely different endeavor, Sebastian et al. provides an improvement to engineering design systems that allows a user to take a design for a part and automatically produce the tool and the processes necessary to make the designed part. Column 5, lines 11-16. In order to operate the design system, however, Sebastian et al. teaches that the user must have a preliminary design concept in mind before the system will even operate. See, e.g., Column 5, lines 55-58 ("Once the customer requirements for the new product are ascertained and a preliminary design concept has been determined, the present invention is first used to help decide appropriate materials and production economics criteria.") (emphasis added). At most, Sebastian et al. discloses a system that allows for some input of desired function of the product. Column 17, lines 9-16. Once the input of the desired function is made, the disclosed system "will present the user with a list of possible options that fulfil [sic] the user's requirements. The user can then select one of the options (e.g., a type of join) that the core design module 76 suggests." Column 17, lines 17-20. Sebastian et al. discloses that geometrical "attribute" information is stored in "feature templates" corresponding to known parts. Column 17, lines 36-43. Sebastian et al. teaches that this information is useful in inter-relating different parts chosen by the user, as well as necessary for the development of tools and processes needed to produce the part. Id.

At no point, however, does Sebastian et al. disclose (or suggest) the input of such "attributes" in defining the desired product components needed to configure a desired product, as required in Applicants' claimed invention, as recited in claim 21.

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Second, nothing in <u>Sebastian et al</u>. discloses (or suggests) that an interactive question-and-answer format is used to receive the desired attributes from the user, as required in Applicants' claim 21 ("outputting a set of product-specific questions related to desired attributes of desired product components; receiving individual answers to respective ones of the set of product-specific questions, including desired attributes of at least one product component"). The Office Action relies on the passage in <u>Sebastian et al</u>. that "The core design module 76 can request functional knowledge from the user to for use in designing the part, tool and process concurrently." Column 17, lines 9-11. This passage, however, provides <u>no</u> indication as to <u>how</u> such "requests" are made to the user. Any assumption that the <u>Sebastian et al</u>. discloses a system that outputs "a set of product-specific questions related to desired attributes of desired product components," as required in claim 21, is pure speculation guided by Applicants' claimed subject matter. Indeed, the fact that <u>Sebastian et al</u>. discloses that user inputs are in the form of "commands" and "requests for data" (column 18, lines 10-17) would lead one skilled in the art <u>away</u> from concluding that an interactive, question-and-answer format was used to input desired attributes, as claimed.

Third, nothing in <u>Sebastian et al</u>. discloses (or suggests) the claimed step of "<u>removing</u> at least one product-specific <u>question</u> from the output set of product-specific questions, <u>prior</u> to receiving an answer to the at least one product-specific question, <u>in response to answers received</u> in said receiving step," as recited in claim 21 (emphasis added). Unlike the interpretation given in the Office Action, <u>see</u> Office Action at 3, this limitation refers to the removal of select <u>individual</u> questions from those output (in said "outputting step") to the user based on answers provided by the user. One of the many advantages of such a method is to improve input efficiency by avoiding exposure of the user to questions that are no longer necessary given the answers provided by the user. The Office Action (at 3) admits that <u>Sebastian et al</u>. lacks any disclosure of this

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"removing" step. The reliance on <u>Humpleman et al</u>. to cure this admitted deficiency, however, is misplaced. (Applicants note that the Office Action does <u>not</u> rely on <u>Humpleman et al</u>. to cure the <u>other</u> deficiencies in <u>Sebastian et al</u>., noted above. For this reason alone, the rejection of claims 21-24 should be reconsidered and withdrawn.)

The Office Action makes the assumption that the "removing" limitation is "about the control of the user interface that allows network communication." Office Action at 3. The Office Action then relies on <u>Humpleman et al</u>. for the teaching: "Each client device can include a user communication interface including input devices such as a mouse and keyboard for receiving user input, and a display for a providing a control use user interface for a use to interact with the network devices." <u>Id</u>. The Office Action thus concludes: "[I]t would have been obvious to a person having ordinary skill in the [art] of the time [of the] invention . . . . Because many differently designed GUI provides user convenient user interface to communicate the system and users." <u>Id</u>. at 3-4. As with <u>Sebastian et al</u>., nothing in <u>Humpleman et al</u>. discloses (or even suggests) any form of interactive question-and-answer format. Merely because <u>Humpleman et al</u>. may disclose the use of a GUI (Graphical User Interace) is <u>no</u> basis for modifying <u>Sebastian et al</u>. to include a question-and-answer format that operates to perform the step of "removing at least one product-specific question from the output set of product-specific questions, prior to receiving an answer to the at least one product-specific question, in response to answers received in said receiving step," as required in claim 21.

Even if the Office Action were correct in assuming that the overall goal of

the "removing" step were one of control over the interface, the mere fact that the "goal"

of the limitation and the "goal" (or even advantage) of Humpleman et al. are the same

cannot be a teaching of the specific (or any particular) implementation (meeting the

limitations of claim 21) that would achieve such a goal. The Office Action fails to cite

any authority to support such a proposition. Thus, even if there were some motivation,

which the Office Action has failed to establish, to combine Sebastian et al. and

Humpleman et al., the resulting modified system would not have met the claimed

limitations, particularly the "removing" limitation.

For this reason alone, the rejection of claim 21 should be reconsidered and

withdrawn. As claims 22-24 all depend (directly or indirectly) from claim 21, the

rejection of claims 22-24 should also be reconsidered and withdrawn for at least the

same reasons given above with respect to claim 21.

Claims 25-30 have been rejected under 35 U.S.C. § 103(a) as being

unpatentable over U.S. Patent No. 5,784,286 (Hirose et al.) in view of Sebastian et al.

Applicants respectfully traverse this rejection and request reconsideration because

nothing in Hirose et al. or Sebastian et al., alone or in combination, would have

rendered obvious Applicants' invention as particularly recited in claims 25-30.

As recited in claim 25, Applicants' claimed invention is directed to a

recording medium that contains thereon an executable program for use in configuring a

product assembly. With the claimed invention, users input "desired attributes of

product components" in response to prompted "product-specific questions. The

claimed method performs the step of "configuring the assembly using frame-based inferences of a product component knowledge base in response to answers provided" by the user.

Nothing in Hirose et al. permits such an interactive, question-and-answer format for the input of "desired attributes of product components," as recited in claim 25. Nothing in Hirose et al. draws inferences from any data to arrive at a configured product, as required in claim 25. Indeed, Hirose et al. performs no "inferences" whatsoever (i.e., of any kind). Hirose et al. merely discloses a method of recording a manual design process. See, e.g., column 2, lines 65-68 ("The present invention provides a design process recording method and a design process recorder which implements the design process recording method."). Nowhere does Hirose et al. utilize the step of "configuring the assembly using frame-based inferences of a product component knowledge base in response to answers provided," as required in Applicants' claim 25.

That Hirose et al. is not a configuration system is best seen from its "story teller" feature. Column 7, line 45 to column 8, line 41. This feature is used to play back a previous design stored in the system, allowing users to browse or query the system to review aspects of the previous design record. Id. The "story teller" feature does not permit the "inference" of new design data based on input from a user (e.g., in the form of answers to product-specific questions). If any inference of design data were being performed, the design would change depending on the user inputs. In Hirose et al., however, changes in user inputs merely result in different views (or stages) of the same design, as previously recorded. If no previous design were recorded, no amount of user inputs would result in any inference leading to a designed product.

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Because <u>Hirose et al.</u> is merely a "recorder" and <u>not</u> an automatic design system, <u>Hirose et al.</u> is unable to perform the step of "configuring [a product] assembly," as required in Applicants' claim 25. The passage (column 12, line 19 to column 13, line 10) relied upon in the Office Action (at 5) details the "storyboard" views produced by the "story teller." Again, different views (or stages) of the <u>same</u> design are depicted on the storyboards. No <u>configuration</u> of <u>different</u> products is possible from the "story teller" or the "storyboards" disclosed in <u>Hirose et al.</u>

Furthermore, <u>Hirose et al.</u> fails to disclose the step of "prompting a set of product-specific questions selected based on product type requested related to desired attributes of product components" and "providing answers to product-specific questions as prompted, including desired attributes of at least one product component," as recited in claim 25. The passages relied upon in the Office Action (at 5) merely depict "commentary" fields that include the original designer's questions and answers with respect to the design recorded. Nothing in <u>Hirose et al.</u> outputs individual questions to a user and solicits individual answers to such questions, particularly <u>not</u> concerning "desired attributes of at least one product component," as required in Applicants' claimed invention.

In addition, Applicants' note numerous other deficiencies in <u>Hirose et al.</u> with respect to Applicants' claim 25. Claim 25 specifically requires, for example, the step of "requesting a product type." The portion of <u>Hirose et al.</u> relied upon in the Office Action (at 5) does <u>not</u> allow a user to "request a product type," but instead allows the user to browse through different components of the <u>same</u> product that is the subject of the previously recorded design.

The Office Action relies on <u>Sebastian et al.</u> merely to show that the feature of quoting a price for an assembly would have been obvious to one of ordinary skill in the

art. Thus, even if such a contention were true, which Applicants' dispute, nothing in Sebastian et al. is relied upon to cure the deficiencies in Hirose et al., as noted above.

For at least any of these reasons, the rejection of claim 25 is in error and should be withdrawn. As Applicants' claims 26 and 27 depend (directly or indirectly) on claim 25, the rejection of claims 26 and 27 is similarly in error and should be withdrawn at least for the same reasons given above with respect to claim 25. As independent claim 28 (and its dependent claims 29 and 30) include limitations similar to those discussed above with respect to claim 25, the rejection of these claims should also be reconsidered and withdrawn at least for the reasons given above with respect to claim 25.

In addition, claim 28, like Applicants' claim 21, also requires the use of "frame-based inferences" and the generation of "configuration data representing configuration of a desired product based on the inferences made." As noted above, nothing in Hirose et al. or Sebastian et al., taken alone, or in combination, discloses (or renders obvious) these claimed features. For these reasons alone, the rejection of claim 28 is in error and should be withdrawn.

Moreover, nothing in Hirose et al. discloses a "data storage subsystem" which is "a repository of product information representing knowledge of product components including type, style, size and attributes." At most, Hirose et al. discloses information of a single product that had been previously designed. Hirose et al. does not teach a collection of multiple products having different types, styles, sizes and attributes in a knowledge base, as required in Applicants' claim 28. Nor does Hirose et al. disclose (or suggest) an inference engine that performs frame-based inferences "of the values of answers to other questions automatically," as required in claim 28. That is, in Applicants' invention of claim 28, not only does the system permit users to answer

product-specific questions, the claimed system also <u>automatically</u> provides answers to <u>other</u> questions (through frame-based inferences) so that the user need <u>not</u> input such answers.

As nothing in <u>Hirose et al</u>. or <u>Sebastian et al</u>., taken alone, or in combination, discloses (or renders obvious) these claimed features, the rejection of claim 28 is in error and should be withdrawn for at least these additional reasons. Because claims 29 and 30 depend from claim 28, the rejection of claims 29 and 30 is similarly in error and should be withdrawn for the same reasons given above with respect to claim 28.

In view of the foregoing, Applicants respectfully request reconsideration of the application and ask that the application be passed to issue at the earliest possible convenience with claims 21-30.

Dated: March 17, 2004   Respectfully submitted,

By
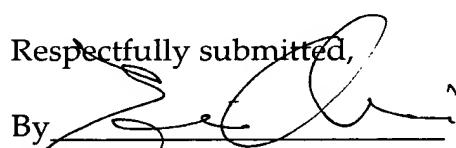
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